

HP TURBINE UPGRADE
PERFORMANCE TESTING

(A) For Guarantees of HP Turbine Efficiency and HP Shaft Power

Measurements required

1. Main steam pressure at HP stop valve chest inlet.
2. Main steam temperature at HP stop valve chest inlet.
3. After throttle valve pressure at HP turbine inlet end of steam leads.
4. IP rotor cooling steam flow (and pressure, temperature).
5. HP extraction to heater 8 – pressure.
6. HP extraction to heater 8 – temperature.
7. HP exhaust pressure.
8. HP exhaust temperature.

9. Feedwater flow to economiser.
10. Heater 8A & 8B feedwater inlet temperatures.
11. Heater 8A & 8B drain temperatures.
12. Heater 8A & 8B feedwater outlet temperatures.
13. Final feedwater temperature (common).
14. HP valves spindle leakage flows.
15. Superheater spraywater flow.

Full cycle isolation required for determination of boiler flow losses.

Test Correction Factors Probably Required

Main steam pressure
Main steam temperature
HP valve pressure drop
Extraction flow to IP rotor cooling
Extraction flow to heater 8
HP exhaust pressure

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*Calibration
FFW flow nozzle*

*extraction flow measurement
- drain stop*

*No SH flow
No Blowdown
1/4 Cycle isolation*